CLAIMS·

What is claimed is:

1.   A method for balancing a motor vehicle wheel, comprising the steps of:

detecting relevant contour features of the wheel or the rim of the wheel;

accessing data related to contour features of a plurality of types of rim or wheel;

comparing the detected contour features to the accessed contour features; and

among the plurality of types of rim or wheel, determining a best matching rim or wheel based on a result of the comparing step; and

determining at least one balancing plane associated with the best matching rim or wheel.

2.   The method of claim 1, further comprising the steps of:

accessing information related to a result of an unbalance measurement; and

determining an angular position and size of a balancing weight based on the information related to the result of an unbalance measurement.

3.   The method according to claim 1, wherein the relevant contour features including at least one of rim flanges, flat surface portion of the rim, a rim surface extending in parallel relationship with the axis of the wheel, and a rim surface adjacent to the wheel disc portion or the wheel spokes.

4.   A method according to claim 1, further comprising the step of detecting at least one of the features comprising rim material, rim width, rim diameter and wheel diameter of the wheel, wherein:

the accessing step further accesses data related to wheel features of a plurality of types of rim or wheel corresponding to the at least one detected features; and

the comparing step further compares the at least one detected feature to the accessed data corresponding to the at least one detected features.

5.   A method according to claim 1, wherein the relevant contour features of the rim is determined by scanning the rim stepwise using an optical scanning measuring procedure.

6. A method according to claim 5, further including the steps of:

altering the axial position of the at least one balancing plane on which an optical scanning beam of the scanning device is directed, for marking the altered axial position,

wherein the angular position and the size of the balancing weight are calculated based on the altered axial position.

7. A method according to claim 1, wherein data related to the detected contour features of the rim are stored with the axial position of the at least one associated balancing plane.

8. A method according to claim 7, wherein the stored data are used for balancing vehicle wheels of other vehicles of the same or a similar type.

9. An apparatus for balancing a motor vehicle wheel including:

a measuring shaft to which a motor vehicle wheel to be balanced is affixed;

a measuring device for measuring forces resulting from an unbalance of the vehicle wheel;

an optical scanning device for obtaining geometrical data related to contour features of the rim or the vehicle wheel; and

an evaluation device coupled to the scanning device and the measuring device;

wherein the evaluation device includes:

memory in which contour features related to a plurality of types of rim or wheels and information related to balancing planes associated to the respective rim or wheel are stored; and

a data processing device, coupled to the memory, is configured to perform the steps of:

accessing the stored contour features;

comparing the geographical data related to contour features of the rim or the vehicle wheel to the accessed contour features; and

among the plurality of types of rim or wheel, determining a best matching rim or wheel based on a result of the comparing step; and

determining at least one balancing plane associated with the best matching rim or wheel.

10.   The apparatus of claim 9, wherein the data processing device is configured to further perform the steps of:

ascertaining the axial position of the at least one balancing plane of the best matching rim or wheel; and

calculating an angular position and a size of at least one balancing weight to be attached to the ascertained balancing plane.